

## **Appendix B**

### **Materials Relied Upon**

#### **Legal Filings**

Complaint for Injunctive and Other Equitable Relief and for Civil Monetary Penalties under the Commodity Exchange Act in *United States Commodity Futures Trading Commission vs. Donald R. Wilson and DRW Investments, LLC*, dated November 6, 2013.

Findings of Fact and Conclusions of Law in *Jefferies & Company, Inc. v. The NASDAQ OMX Group, Inc., International Derivatives Clearing Group, LLC, and International Derivatives Clearinghouse, LLC*, January 9, 2013, JEF-CFTC-476403-33.

#### **Expert Reports, Exhibits and Corresponding Backup Materials**

Expert report of Robert M. MacLavery Prepared at the Request Of Plaintiff United States Commodity Futures Trading Commission in *United States Commodity Futures Trading Commission vs. Donald R. Wilson and DRW Investments, LLC*, June 19, 2015.

#### **Depositions and Corresponding Exhibit Materials**

Deposition of Brian Vander Luitgaren, November 19, 2014.

Deposition of Craig Silberberg, December 03, 2014.

Deposition of Christopher Bury, May 29, 2015.

Deposition of Donald R. Wilson, April 02, 2013.

Deposition of Garry O'Connor, February 29, 2012.

Deposition of Garry O'Connor, September 18, 2012.

Deposition of Gerard Kopera, April 2, 2015.

Deposition of Michael K. Dundon, April 1, 2015.

Deposition of Robert Wasserman on Behalf of the CFTC, April 22, 2015.

### **CFTC Related Documentation**

CFTC 1997 Annual Report.

CFTC, Code of Federal Regulations, §38.500 Core Principle 9, 17 C.F.R. §38.500, August 20, 2012.

CFTC, Core Principles and Other Requirements for Designated Contract Markets, 75 FR 80572-01 Proposed Rules, CFTC 17 CFR Parts 1, 16, and 38, RIN 3038-AD09, December 22, 2010.

CFTC, Core Principles and Other Requirements for Designated Contract Markets, 77 FR 36612-01 Rules and Regulations, CFTC 17 CFR Parts 1, 16, and 38, RIN 3038-AD09, June 19, 2012.

CFTC, Derivatives Clearing Organization General Provisions and Core Principles, Federal Register/Vol. 76, no. 216, CFTC 17 C.F.R Parts 1, 21, 39, and 140, RIN 3038-AC98, November 8, 2011.

CFTC, Significant Price Discovery Contracts on Exempt Commercial Markets; Final Rule, Federal Register/Vol. 74, No.54, CFTC 17 CFR Parts 15, 16, 17 et al., RIN 3038-AC76, March 23, 2009.

CFTC, Statement of Regulatory Priorities, 63 FR 61402-01, November 9, 1998.

CFTC, Written Testimony of Jeffrey Harris, Chief Economist, and John Fenton, Director of Market Surveillance Before the Subcommittee on General Farm Commodities and Risk management, Committee on Agriculture, United States House of Representatives, May 15, 2008.

### **Data Source and Analytical Software Providers**

Brian Vander Luitgaren IDCH Activity Logs Produced by DRW on December 14, 2011 and February 6, 2012.

Bloomberg, L.P., Prices and Other Financial Data.

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### **Books, Academic Papers, and Other Publicly Available Documents**

Brigo, Damiano, and Mercurio, Fabio. *Interest rate models-theory and practice: with smile, inflation and credit*. Springer Science & Business Media, 2007.

Burghardt, Galen, and Hoskins, William (1994), "The Convexity Bias in Eurodollar Futures," Dean Witter Institutional Futures Research Note.

"Challenges of Price Discovery in Illiquid Commodity Markets: A White Paper about Pricing Minor Metals," *FerroAlloys and Rare Earths*, February 2014, Metal-Pages, Ltd.

CME Gold settlement procedures. Available at:

<http://www.cmegroup.com/confluence/display/EPICSANDBOX/Gold>.

CME FX Futures settlement procedures. Available at:

<http://www.cmegroup.com/confluence/display/EPICSANDBOX/Mexican+Peso>.

CME Group Press Release, "CME Group Establishes \$100M Fund to Provide Additional Protection for Family Farmers and Ranchers", February 2, 2012. Available at:

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CME Group, "Quick Facts on Settlements at CME Group," October 2014, Available at:

<https://www.cmegroup.com/trading/agricultural/files/settlement-price-fact-sheet.pdf>.

CME settlement procedures for interest rate swap futures. Available at:

<http://www.cmegroup.com/confluence/display/EPICSANDBOX/Interest+Rate+Swaps>.

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Henrard, Marc, "Deliverable Interest Rate Swap Futures: Pricing in Gaussian HJM Model," OpenGamma Quantitative Research n. 5 (2012). Available at

<http://www.opengamma.com/sites/default/files/deliverable-interest-rate-swap-futures-pricing-gaussian-hjm-model-opengamma.pdf>.



Hull, John, and White, Alan., "Pricing interest-rate derivative securities," *The Review of Financial Studies*, Vol 3, No. 4 (1990).

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#### **Other Documents**

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DRW Letter to IDCG, Investigation Number IDCH II 2011-1, February 18, 2011.

Email exchange between Gerard Kopera and Garry O'Connor regarding "IDCG Curve Question from DRW," June 18, 2010, IDCG00002661-2.

Email exchange between Michael Dundon and Rae Etherington regarding IDCH Adjustment of Revaluation Curve, January 24, 2011, JEF-CFTC-474513-514.

Email from IDCG to DRW, December 20, 2010, D0165286.

Filtering, Prioritizing, and Modification of IDCG Data Feeds, IDCG00009826-28.

IDCG Marketing Presentation, D0163507-29.

IDCH Notice to Members No. 0003-10, Payment of Price Alignment Interest (PAI) into Variation Performance Bond for OTC Contracts Cleared by OTC Clearing Members, November 15, 2010, Exhibit 8 - JEF-CFTC-00000194-196.

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Plaintiff's Objections and Responses to Defendants' First Set of Interrogatories, June 4, 2015.

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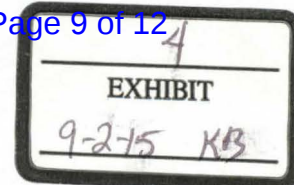
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# Exhibit 4





**Position Accountability:** A person owning or controlling more than 3,000 contracts net long or net short in all contract maturities combined shall provide, in a timely fashion, upon request by the Participating Trading Facility, information regarding the nature of the position, trading strategy, and hedging information, if applicable.

**Large Trader Reporting:** Pursuant to Commission Regulation Section 15.03 and Part 17 of the Commission's Regulation, the position level that is required to be reported to the Participating Trading Facility and Commission is any open position in a particular IDEX USD 1 Month Interest Rate Swap Futures Contract at the close of trading on any trading day equal to or in excess of twenty-five on either side of the market.

**Designated Contract Market:** The NASDAQ OMX Futures Exchange (NFX).

#### **Rule 1002.IDEX USD 3 Month Interest Rate Swap Futures Contract**

(a) Description.

**Underlying.** IDEX USD 3 Month Interest Rate Swap Futures Contracts are futures on United States dollar-denominated interest rate swaps with a notional value of \$100,000, requiring the exchange of periodic payments of semi-annual fixed rate payments based on the futures price in exchange for quarterly floating-rate payments based on the 3-month US Dollar London Interbank Offered Rate (the "USD LIBOR").

**Payment Schedule.** Periodic payments on the IDEX USD 3 Month Interest Rate Swap Futures Contract will be made on a quarterly basis for the floating rate payments, and on a semi-annual basis for the fixed rate payments. Each payment date in the IDEX USD 3 Month Interest Rate Swap Futures Contract will be defined by the Effective Date, the Maturity Date, and the payment frequency of the fixed or floating side as appropriate, adjusted by the Modified Following Business Day convention for New York and London.

The Effective Date (start of first accrual period) shall be 2 Week Days after the execution date of any individual IDEX USD 3 Month Interest Rate Swap Futures Contract, adjusted by the Following Business Day convention for New York.

The Maturity Date shall be the final payment date unadjusted by any Business Day convention of the IDEX USD 3 Month Interest Rate Swap Futures Contract and shall be established by the Participating Trading Facility on the listing date.

The Reset Date shall be 2 London Business Days preceding the start of the floating interest accrual period. The only exception to this is the first floating interest accrual period where the Reset Date will be the execution date unless this is not a good London Business Day in which case the Reset Date will be the first good London Business Day preceding the listing date.

The Start Date of the nth interest accrual period is the Effective Date for the series plus (n-1)\* payment frequency of the fixed or floating side as appropriate, adjusted by the Modified Following Business Day convention for New York and London.

The End Date of the nth interest accrual period is the Effective Date for the series plus n\* payment frequency of the fixed or floating side as appropriate, adjusted by the Modified Following business day convention for New York and London.

The Interest Payment Date of the nth interest period is the End Date of the same interest accrual period.

For purposes of this rule, the following conventions determine how non-business days are treated:

- (i) "Following" means the date will be adjusted to be the first following day that is a Business Day in the locations listed;
- (ii) "Modified Following" means the date will be adjusted to be the first following day that is a Business Day in the locations listed unless that day falls in the next calendar month, in which case that date will be the first preceding day that is a Business Day in the locations listed;
- (iii) "Preceding" means the date will be adjusted to the first preceding day that is a Business Day in the locations listed;
- (iv) "Business Day" means a day in which the banking system is open to settle payments in the locations listed; and
- (v) "Week Day" means any calendar day which is not a Saturday or Sunday

Floating Rate Payment. The floating rate payment for a given accrual period shall be an amount equal to the Notional Value multiplied by the USD LIBOR setting multiplied by the actual number of days in the accrual period, divided by 360.

Fixed Rate Payment. The fixed rate payment for a given accrual period shall be equal to the notional value multiplied by the fixed rate multiplied by the number of days in the interest period in respect of which payment is being made divided by 360, calculated on a formula basis as follows;

$$\{[360 \times (Y2-Y1)] + [30 \times (M2-M1)] + (D2-D1)\}/360$$

Where:

Y1 is the year, expressed as a number, in which the start date of the interest period falls

Y2 is the year, expressed as a number, in which the end date of the interest period falls

M1 is the calendar month, expressed as a number, in which the start date of the interest period falls

M2 is the calendar month, expressed as a number, in which the end date of the interest period falls



D1 is the first calendar day expressed as a number, of the interest period, unless such a number would be 31, in which case D1 will be 30.

D2 is the last calendar day, expressed as a number, of the interest period, unless such a number would be 31 and D1 is greater than 29, in which case D2 will be 30.

(b) *Schedule.* The Participating Trading Facility at any given time may list for trading IDEX USD 3 Month Interest Rate Swap Futures Contracts having maturities from one day to thirty years (with one year comprising 365 days, or 366 days for leap years), with one maturity of IDEX USD 3 Month Interest Rate Swap Futures Contract maturing on every calendar day. The maturity of each individual IDEX USD 3 Month Interest Rate Swap Futures Contract shall be established by the Participating Trading Facility on the date each such contract is listed by the Participating Trading Facility.

(c) *Minimum Increments.* The price of the IDEX USD 3 Month Interest Rate Swap Futures Contract is the price of the fixed leg portion of the swap. Minimum price intervals are expressed in terms of the interest rate on the fixed rate portion of the IDEX USD 3 Month Interest Rate Swap Futures Contracts. The minimum price interval is .001 for Contracts traded on the IDEX XT trading system and .00001 for Contracts established by means of EFS through the SwapDrop Portal.

(d) *Last Trading Day.* Trading of any individual IDEX USD 3 Month Interest Rate Swap Futures Contract terminates at the close of trading on the Business Day preceding that contract's Maturity Date. For purposes of this rule, a Business Day is any day on which the Participating Trading Facility is open for the trading of IDEX USD 3 Month Interest Rate Swap Futures Contracts.

(e) *Contract Modifications.* Specifications are fixed as of the first day of trading of a contract. If any U.S. government agency or body with authority issues an order, ruling, directive or law that conflicts with the requirements of these rules, such order, ruling, directive or law shall be construed to take precedence and become part of these rules, and all open and new contracts shall be subject to such government orders.

(f) *No-Break Range.* Pursuant to Rule F26 of the Participating Trading Facility, The "No Break Range" for any Contract shall be any price within a range bounded by the "fair market value" of such Contract at the time the transaction occurred plus or minus the market movement covered by one-third of the initial margin required for such Contract. For these purposes fair market value shall be determined by the Participating Trading Facility based on trading activity in the contract at the time of the dispute or by surveying at least three market participants not involved in the transaction in question.

(g) *Reportable Position.* Pursuant to Commission Regulation Section 15.03 and Part 17 of the Commission's Regulation, the position level that is required to be reported to the Participating Trading Facility and Commission is any open position in a particular IDEX USD 3 Month Interest Rate Swap Futures Contract at the close of trading on any trading day equal to or in excess of twenty-five on either side of the market.

(h) *Position Accountability.* A person owning or controlling more than 3,000 contracts net long or net short in all contract maturities combined shall provide, in a timely fashion, upon request by the Participating Trading Facility, information regarding the nature of the position, trading strategy, and hedging information, if applicable.

(i) *Daily Settlement Price.* Each open position is valued by the Clearinghouse at the end of each trading day by valuing each leg of the cash flows of the contract (fixed and floating) according to discount factors generated by the IDEX Curve. Each Trading Day, the Daily Settlement Price shall be established by the Clearinghouse based upon the IDEX Curve that corresponds to the fixed rate portion of the swap. A net present value of the position will be determined and set as the Daily Settlement Price. Notwithstanding the preceding sentence, the Clearinghouse may, in its sole discretion, establish a Daily Settlement Price that is a fair and appropriate reflection of the market. The Final Settlement Price shall be the Daily Settlement Price on the Last Trading Day.

(j) *Final Settlement Date.* The Final Settlement Date shall be the Final Payment Date of each individual IDEX USD 3 Month Interest Rate Swap Futures Contract. Clearing Members holding open positions in a IDEX USD 3 Month Interest Rate Swap Futures Contract at the termination of trading in that Contract shall make payment to or receive payment from the Clearinghouse in accordance with normal variation and performance bond procedures based on the net of the Fixed and Floating Rate Interest payment of the last interest accrual period.

#### **Rule 1003.IDEX USD 1 Month Forward Start Interest Rate Swap Futures Contracts**

**Description:** IDEX USD 1 Month Forward Start Interest Rate Swap Futures Contracts are futures on United States dollar-denominated interest rate swaps with a notional value of \$100,000 and a deferred Effective Date, requiring the exchange of periodic payments of semi-annual fixed rate payments based on the futures price in exchange for quarterly floating-rate payments based on the 1-month US Dollar London Interbank Offered Rate (the “USD LIBOR”).

**Ticker Symbols:** Base Example = 1FSYYYYMMDDYNN. YYYYYMMDD refers to the unadjusted Maturity Date of the series and YNN refers to contract duration in years.

**Contract Listings:** The Participating Trading Facility at any given time may list for trading IDEX USD 1 Month Forward Start Interest Rate Swap Futures Contracts having terms from one to twenty nine years and a Maturity Date no longer than thirty years (with one year comprising 365 days, or 366 days for leap years), with one maturity of the IDEX USD 1 Month Forward Start Swap Futures Contract maturing on every calendar day. The Effective Date and Maturity Date of each individual IDEX USD 1 Month Forward Start Interest Rate Swap Futures Contract shall be established by the Participating Trading Facility on the date each such contract is listed by the Participating Trading Facility. The Participating Trading Facility shall make known the listing of any contract on its website prior to the commencement of trading.

**Trading Hours:** 7:00 AM to 5:00 PM Eastern Time (“ET”) Monday – Friday